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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/046,564

Filing Date: January 16, 2002

Appellants: MANZ ET AL.

Stanley C. Spooner
For Appellants

EXAMINER'S ANSWER

MAILED
OCT 19 2004
GROUP 1700

This is in response to the appeal brief filed September 2, 2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct. The November 17, 2003 interview summary stating: "The examiner initiated the interview to work out allowable claims. No progress was made" is not considered to support appellants' position that the interview "resulted in the allowance of the application." It is clear that the wrong box was inadvertently checked in Part III.

(4) *Status of Amendments After Final*

The appellants' statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellants' statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The rejection of claims 1 and 3-20 stand or fall together because appellants' brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) *ClaimsAppealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

U.S. Patent No. 6,258,263	HENDERSON et al.	7-2001
U.S. Patent No. 6,238,565	HATCH	5-2001
U.S. Patent No. 6,136,187	ZARE et al.	10-2000
U.S. Patent No. 6,103,112	SUTTON et al.	8-2000
U.S. Patent No. 6,068,684	OVERTON	5-2000
E. P. 568,024	MIYAZAKI et al.	5-2000

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 5, and 7-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson (U.S. Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024). At best, the claims differ from Henderson (U.S. Patent No. 6,258,263) in reciting the particular micropump. Henderson (U.S. Patent No. 6,258,263) discloses use of a micropump on column 3, lines 42-54. Miyazaki (E.P. 568,024) (column 1, line 53-column 2, line 7 and column 14, line 46-column 15, line 17) discloses a micropump

that gasifies the liquid is very compact, has no dead space, and does not pulsate the flow. It is clear that application of "gasifying energy" is evaporation based upon the column 3, line 43 and 57-58 of Miyazaki (E.P. 568,024)'s use of the terms "evaporates" and "evaporating." It would have been obvious to use a micropump that gasifies the liquid in Henderson (U.S. Patent No. 6,258,263) because Miyazaki (E.P. 568,024) (column 1, line 53-column 2, line 7 and column 14, line 46-column 15, line 17) discloses a micropump that gasifies the liquid is very compact, has no dead space, and does not pulsate the flow.

Claims 3 and 4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson (U.S. Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024) as applied to claims 1, 5, and 7-19 above, further in view of Zare (U.S. Patent No. 6,136,187). At best, the claims differ from Henderson (U.S. Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024) in reciting use of a gas flow unit. Zare (U.S. Patent No. 6,136,187) (column 4, lines 52-58) discloses use of a reduction in gas pressure aids evaporation. It would have been obvious to reduce gas pressure in Henderson (U.S. Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024) because Zare (U.S. Patent No. 6,136,187) (column 4, lines 52-58) discloses use of a reduction in gas pressure aids evaporation.

Claim 6 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson (U.S. Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024) as applied to claims 1, 5, and 7-19 above, further in view of either Sutton (U.S. Patent No. 6,103,112) or Overton (U.S. Patent No. 6,068,684). At best, the claim differs from Henderson (U.S.

Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024) in reciting use of a cooler. Sutton (U.S. Patent No. 6,103,112) (column 13, lines 36-40) discloses that use of a Peltier heater/cooling allows reaching and maintaining temperature. Overton (U.S. Patent No. 6,068,684) (column 8, lines 10-18) discloses that use of a Peltier cooler allows temperature programming. It would have been obvious to use a cooler in Henderson (U.S. Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024) either because Sutton (U.S. Patent No. 6,103,112) (column 13, lines 36-40) discloses that use of a Peltier heater/cooling allows reaching and maintaining temperature or because Overton (U.S. Patent No. 6,068,684) (column 8, lines 10-18) discloses that use of a Peltier cooler allows temperature programming.

Claim 20 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson (U.S. Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024) as applied to claims 1, 5, and 7-19 above, and further in view of Hatch (U.S. Patent No. 6,238,565). At best, the claim differs from Henderson (U.S. Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024) in reciting use of a monolith. Hatch (U.S. Patent No. 6,238,565) (column 4, lines 24-26 and 62-66) discloses that with its ease of manufacturing and lack of bead shifting monoliths provide a surprising advantage over existing technology and may fill a channel in a plate. It would have been obvious to use a monolith in Henderson (U.S. Patent No. 6,258,263) in view of Miyazaki (E.P. 568,024) because Hatch (U.S. Patent No. 6,238,565) (column 4, lines 24-26 and 62-66) discloses that with its ease of manufacturing and lack of bead shifting monoliths provide a surprising advantage over existing technology and may fill a channel in a plate.

(11) Response to Argument

Appellants urge patentability in their Summary of the Invention based upon having the pump on a chip. However, the appealed claims do not have a chip limitation and do not use the term "pump". The preamble of claim 1's use of the term "micro-fabricated" does not imply use of a chip. "Micro-fabricated" is a product by process limitation. It means that the product was made by a process such as page 8, lines 5 and 6 of the instant specification's "lithography". Alternatively, it could be made by Miyazaki (E.P. 568,024) column 15, lines 4-7's "semiconductor manufacturing process" which makes "cartridges of stable quality that can be mass-produced inexpensively." Thus, "micro-fabricated" is considered to be a manner of making a product that is not reflected in the final product. As such, the appealed claims do not recite having a pump on a chip. Accordingly, the argument is not based upon limitations in the claims.

Appellants urge patentability on page 6 of appellants' brief based upon an internal pumping system versus an external pumping system. However, the appealed claims do not recite the use an internal pump. This is particularly true in view of the lack of a chip limitation in the claims. Accordingly, the claims can not and do not specify whether the pump is internal or external to the chip since it does not recite use of a chip. Accordingly, the argument is not based upon a limitation in the claims.

Appellants urge on page 6 of appellants' brief that Henderson (U.S. Patent No. 6,258,263) contains no teaching as to what might comprise a suitable pumping system. However, Henderson (U.S. Patent No. 6,258,263) discloses use of a micropump on column 3, lines 42-54.

Appellants urge on pages 6, 7, 9 and 11-12 of appellants' brief that Miyazaki (E.P. 568,024)'s column 3, lines 16-21 indication that when gasifying energy is not applied, surface tension is balanced with pressure by the liquid level so that no flow occurs negates that Miyazaki (E.P. 568,024) causes the flow of fluid through evaporation. However, column 3, lines 21-32 of Miyazaki (E.P. 568,024) subsequently indicates when gasifying energy is applied a "flow free of any pulsating flow in the flow path" results. It is clear that application of "gasifying energy" is evaporation based upon the column 3, line 43 and 57-58 of Miyazaki (E.P. 568,024)'s use of the terms "evaporates" and "evaporating." As such, it is clear that the application of gasifying energy to cause evaporation is the mechanism by which fluid is caused to flow. In any event, the claims do not preclude the supplemental use of pressure by the liquid level to cause flow.

Appellants urge on pages 13 and 14 of appellants' brief that there is no motivation to combine Henderson (U.S. Patent No. 6,258,263) and Miyazaki (E.P. 568,024). However, Henderson (U.S. Patent No. 6,258,263) discloses use of a micropump on column 3, lines 42-54. Miyazaki (E.P. 568,024) (column 1, line 53-column 2, line 7 and column 14, line 46-column 15, line 17) discloses a micropump that gasifies the liquid is very compact, has no dead space, and does not pulsate the flow. It is clear that application of "gasifying energy" is evaporation based upon the column 3, line 43 and 57-58 of Miyazaki (E.P. 568,024) use of the terms "evaporates" and "evaporating." As such, motivation exists to use a micropump that gasifies the liquid in Henderson (U.S. Patent No. 6,258,263) because Miyazaki (E.P. 568,024) (column 1,

line 53-column 2, line 7 and column 14, line 46-column 15, line 17) discloses a micropump that gasifies the liquid is very compact, has no dead space, and does not pulsate the flow.

Appellants urge on page 14 of appellants' brief that Henderson (U.S. Patent No. 6,258,263)'s column 8, lines 38-39 reference to an external pumping system is a teaching away. However, the appealed claims do not recite the use an internal pump. This is particularly true in view of the lack of a chip limitation in the claims. Accordingly, the claims can not and do not specify whether the pump is internal or external to the chip since it does not recite use of a chip. Accordingly, the argument is not based upon a limitation in the claims.

Appellants urge on pages 14 and 15 of appellants' brief that Miyazaki (E.P. 568,024)'s column 3, lines 16-21 indication that when gasifying energy is not applied, surface tension is balanced with pressure by the liquid level so that no flow occurs is a teaching away from Miyazaki (E.P. 568,024)'s teaching of causing a flow of fluid through evaporation. However, column 3, lines 21-32 of Miyazaki (E.P. 568,024) subsequently indicates when gasifying energy is applied a "flow free of any pulsating flow in the flow path" results. It is clear that application of "gasifying energy" is evaporation based upon the column 3, line 43 and 57-58 of Miyazaki (E.P. 568,024) use of the terms "evaporates" and "evaporating." As such, it is clear that the application of gasifying energy to cause evaporation is the mechanism by which fluid is caused to flow. In any event, the claims do not preclude the supplemental use of pressure by the liquid level to

cause flow.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,
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EGT
October 15, 2004

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